CE1.3-R4 : CYBER FORENSICS AND LAW

NOTE :
1. **Answer question 1 and any FOUR questions from 2 to 7.**
2. **Parts of the same question should be answered together and in the same sequence.**

Total Time : 3 Hours   **Total Marks : 100**

1. (a) What are the various kinds of Cyber-crimes ? Explain briefly.

   (b) Describe the limitations in detecting and investigating Cyber-crimes.

   (c) What is the role of Hash functions in Cyber forensics ?

   (d) Explain the role of Constitutional law in Cyber forensics.

   (e) Describe the process of detecting steganography in digital images.

   (f) What are the relevant entries in a Digital forensics' laboratory checklist ? Explain.

   (g) Explain the difference between data privacy and data security.   **(7x4)**

2. (a) Explain the importance of understanding the capabilities and limitations of cyber forensic tools and utilities.

   (b) Explain the importance of reversing the Steganographic process and how it is done in Cyber forensics investigations ?

   (c) Explain the process of conducting a forensic analysis of a mobile device, and discuss the challenges associated with mobile device forensics.   **(6+6+6)**

3. (a) Explain the role of NetWitness as a cyber forensic tool and utility.

   (b) Explain the challenges of collecting and analyzing volatile data in cyber forensic investigations.

   (c) Explain the difference between FileList and FileCnvt forensic tool and utlitity.

   (d) Explain the process of acquiring data from a storage device using EnCase.   **(5+5+5+3)**

4. (a) Explain the concept of digital fingerprinting and how it is used in cyber forensics.

   (b) Discuss the importance of maintaining the integrity of digital evidence in cyber forensic investigations.

   (c) Describe the role of the General Data Protection Regulation (GDPR) in protecting individual privacy.

   (d) Discuss the ethical considerations surrounding the collection and use of personal data in cyber forensic investigations.   **(5+5+4+4)**

5. (a) Describe the role of metadata in cyber forensic investigations.

(b) Explain how encryption keys can be recovered in cyber forensic investigations.

(c) Explain the importance of chain of custody in the use of cyber forensic tools and utilities.

(d) Describe the role of write blockers in cyber forensic investigations, and explain why they are necessary.

(3+5+5+5)

6. (a) Discuss the impact of cyber forensic investigations on digital privacy and civil liberties.

(b) Explain the role of Counter or Anti-forensics as a concealment technique.

(c) Explain the purpose of Bulk Extractors in cyber forensics.

(d) Enlist the difference between public key cryptography and secret key cryptography.

(3+5+5+5)

7. (a) What is the purpose of File Carving in cyber forensics ?

(b) Explain how the deleted files and partitions on hard disks can be recovered ?

(c) Write a short note on (**Any Two**) :

(i) Role of Servers in Cyber Forensics

(ii) Spoofing

(iii) Hijacked session attacks

[5+5+(4+4)]

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